

Climatological Data for June, 1910.
DISTRICT No. 5, UPPER MISSISSIPPI VALLEY.

GEORGE M. CHAPPEL, District Editor.

GENERAL SUMMARY.

The most notable climatic features of June were the unusually cool weather during the first and the continuously high temperatures during the latter half of the month, the excessive amount of sunshine, the low percentage of humidity, the great deficiency of rainfall and droughty conditions over the central and northern portions of the district, the light wind velocity, and the comparatively small number of thunder and hail storms and wind squalls.

The first 12 to 14 days of the month were abnormally cool, with frequent and fairly well-distributed showers over the larger part of the district, and freezing temperatures and snow flurries over the northern tier of States. The latter half of the month was excessively hot and dry; droughty conditions prevailed, which were very damaging to vegetation in the northern sections.

TEMPERATURE.

The temperature was abnormally low during the first 13 days, then it changed within 3 days to excessively warm and continued so during the remainder of the month, causing the monthly mean to be above the normal over the western and northern portions of the district. The departures ranged from $+10.5^{\circ}$ in northwestern North Dakota to -2.7° in southern Illinois, the line of zero departure passing from northern Illinois southwestward across the extreme southern portion of Iowa. The difference in temperature between the first and latter half of the month was very marked. Freezing temperatures and heavy frosts occurred over the northern tier of States early in the month and maximum temperatures of 100° or higher occurred in all parts of the district, except Missouri, southern Illinois, and Indiana on one or more days during the latter half of the month. The greatest monthly range occurred in North Dakota where the temperature was 22° on the 2d, and 109° on the 20th, making a range for the State of 87° during the 18 days. The record for the number of days in June with a maximum temperature of 90° or higher was broken at many stations over the northern two-thirds of the district.

The monthly mean temperature for the district, as shown by the records of 288 stations, was 68.7° , which is 1.2° above the normal. The highest monthly mean was 73.8° at Tipton, Iowa, and the lowest, 62.3° , at Long Lake, Wis. The highest temperature reported was 109° at Minot, N. Dak., on the 20th, and the lowest, 22° at Grandville, N. Dak., on the 4th, and at Pratt, N. Dak., on the 5th.

PRECIPITATION:

There was a marked deficiency of precipitation in all sections; there being only 1 station in Minnesota, 4 in Iowa, 1 in Missouri, and 3 in Illinois that reported an excess, and the surplus at those stations was due to heavy local showers on 1 or 2 days and not to general and long continued rains. There were several stations in all of the States in the district, except Missouri, that reported considerably less than 1 inch during the entire month. There was 1 station in Wisconsin and 1 in Minnesota at which only a trace fell, and 1 station in North Dakota had no precipitation. The deficiency in North Dakota was 2.49 inches; in Minnesota it ranged from 2 to over 5 inches; in Wisconsin it was 3.27; in Iowa, 2.41; in Missouri, 1.39; in Indiana, 2.69, and in Illinois, 1.72 inches.

It was the driest June on record in Minnesota and Iowa since state-wide observations have been taken.

The average precipitation for the district, as shown by the records of 305 stations, was 1.07 inch, which is 2.46 inches below the normal. The greatest amount, 8.58 inches, occurred at

Carbondale, Ill., while at Grafton, N. Dak., there was no precipitation.

Measurable precipitation occurred on an average of 6 days, but nearly all of it fell during the first decade.

EXCESSIVE PRECIPITATION.

The official in charge, local office, U. S. Weather Bureau, at Hannibal, Mo., reports:

Excessive rain fell on the night of the 9-10th, 2.93 inches falling in 8 hours and 25 minutes. The Lindel Avenue wagon bridge was carried away by the rush of waters and the St. Louis and Hannibal Railroad lost 200 or 300 yards of track in that vicinity. Many houses in the bottom lands along Bear Creek were flooded, gardens destroyed, and many hogs and chickens destroyed. It is estimated that \$15,000 damage was done in and within a mile of Hannibal. A heavy shower on the 19th resulted in much damage in the vicinity of Spaulding Springs, Mo.

At Springfield, Ill., 1.57 inch fell in 43 minutes on the 25th, between 6:13 and 6:56 p. m.; on the 26th, 0.89 inch fell in 40 minutes, between 6:19 and 6:56 p. m. At Cairo, Ill., 0.40 inch fell in 13 minutes, on the 4th, between 11:38 and 11:51 a. m. At Carbondale, Ill., 4.50 inches fell in 3 hours on the 27th.

SUNSHINE AND CLOUDINESS.

The average number of clear days was 19; partly cloudy, 7; cloudy, 4. The duration of sunshine was above the normal, especially in the northern section.

WIND.

Southeast winds prevailed. The highest velocity reported was 42 miles per hour from the southwest at Springfield, Ill., on the 8th.

Referring to the statement made in the first paragraph of this report in regard to the small number of hail storms and wind squalls during the month, the following reports will be of interest. In a letter to the District Editor the secretary of the Iowa Mutual Tornado Insurance Association says:

Following is a list of the losses sustained and paid by this association during the month of June for the past 5 years: 1906, \$5,002.61; 1907, \$1,703.25; 1908, \$24,421.20; 1909, \$9,252.86; 1910, \$416.92.

In a similar communication, the secretary of the Farmer's Mutual Hail Insurance Association of Iowa says:

In answer to your inquiry I wish to say that our experience for this year is that the hailstorms have been much lighter than the average. We have had no reports of storms doing any considerable damage, and what few storms have been reported were of very small area.

RIVERS.

The average stage of the rivers was below the normal in all parts of the district.

At Hannibal, Mo., the stage reading of the Mississippi River was the lowest for June since 1902.—George Reeder, Section Director.

Dubuque, Iowa.—The rivers in the district have fallen steadily during the month. The maximum stage of the Mississippi was 5.0 on the 1st, and the minimum 2.0 feet on the 30th. The Wisconsin River at Portage fell from a maximum of 4.0 feet on the 1st to a minimum of 1.7 foot on the 28th. The proverbial "June rise" was conspicuous for its absence. The stage at Dubuque was lower in June only once in 37 years, and probably in 46 years. At La Crosse, Wis., the minimum stage was the lowest ever recorded in June. At Reeds Landing the river was only a tenth or two above zero at the end of the month. Toward the close of the month steamboats running up and down the river experienced numerous and annoying delays, owing to the low water, although through navigation was not interrupted between St. Louis and St. Paul, doubtless due to the excellent work that has been done on the Mississippi by the U. S. Engineers during the past few years. The largest boats of the Diamond Joe Line have not started yet, owing to low water. They are, however, running a smaller boat.—J. H. Spencer, Local Forecaster.

Wisconsin.—The rivers fell steadily during the month and extreme low-water conditions were reported over the whole section.—H. B. Hersey, Inspector.

Minnesota.—The Mississippi River fell to the lowest stage for June since June 30, 1900.—U. G. Purcell, Section Director.

The maximum stage of the Des Moines River at Des Moines, Iowa, 4.2 feet, occurred on the 12th, and the minimum stage was 2.3 feet on several days during the first decade of the month. The slight rise between the 10th and 12th was due to heavy local showers in the northern part of the State. After the 12th there was a gradual fall and at the close of the month the stage was 2.7 feet.

MISCELLANEOUS.

The cold weather during the fore part of the month retarded the growth of vegetation and was especially damaging to the corn crop, as it not only checked the growth of the plants, but it prevented the germination of the poor seed and favored the development of insects. Cut and wire worms were very active and as a result the stand of corn is much below the average of past years. The potato beetles were also abundant and caused considerable injury to the potato crop.

The high temperatures during the latter half of the month were extremely favorable to plant growth. Corn made rapid advancement and at the close of the month was nearly up to the normal stage of growth for that season of the year. The high temperatures, the excessive sunshine, and the absence of rainfall made the best of conditions for killing weeds and cultivating corn. The fields were never cleaner, and the soil is in excellent condition to withstand the effects of droughty weather. The dry, hot weather was, however, very injurious to grass and potatoes in the central section and to small grain, grass, and potato crops in the northern States.

The dry weather was also favorable to brush and forest fires in Minnesota and Wisconsin, and much damage was done in those States.

Hazy and smoky weather prevailed much of the time during the latter part of the month in all sections.

The following extracts from reports of section directors will give a more general and detailed account of the conditions in the several sections of the district:

North Dakota.—The weather conditions during June were very unfavorable and at the close of the month vegetation was in a somewhat serious condition. The unfavorableness consisted chiefly of excessive temperature, lack of moisture, and hot, dry winds. There was more than the usual amount of sunshine, the excess being about 10 per cent.

Minnesota.—The past month was the warmest and driest June on record. The sunshine was unusually abundant; there being 19 clear days, which is 3 more than previously recorded. The greatest deficiency of precipitation was in Fillmore and southwestern Winona counties. Nearly all of the monthly precipitation occurred from the 3d to the 6th, on the 8th and 9th, and from the 22d to the 26th. On the other days there was little or no precipitation, and with the lightest precipitation since February or any like period for over 50 years, serious drought has resulted over much the larger part of the State, causing serious loss to crops and farm produce. In the northeastern counties there was much loss from forest and brush fires.

Wisconsin.—The weather was very dry and remarkably free from severe storms. Thunderstorms were general throughout the section on only 1 day, the 18th, although there were a few scattering storms with some heavy rainfall in the extreme southwestern section on the 26th or 27th. The winds were very light and variable, the maximum velocity for 5 minutes at the Weather Bureau Office at La Crosse being only 15 miles per hour. The precipitation averaged slightly less than one-quarter of the normal amount. There were only 3 cloudy days during the month, but there was much smoky weather even in the southern counties, due to the many forest fires in the northern woods.

Missouri.—The first 10 days of the month were more or less cloudy and wet; in fact, the greater part of the monthly precipitation occurred during that period, the precipitation during the second and third decades being largely confined to local showers. The total fall for the month was less than normal, but the moisture was as a rule sufficient for needs.

Illinois.—The temperature showed great contrasts, ranging from 32° on the 1st, with light frosts at several places, to 101° on the 30th. The precipitation was the lightest for June since 1887. The distribution of rainfall was very uneven, being very light in the northern half of the district. While the temperature was above the normal during the latter half of the month, the lack of moisture in many places was detrimental to plant growth. Our correspondent at Oregon, Ogle County, writes: "Only shower during month, 0.20 inch on 14th. Pastures and oats are suffering for rain. Early potatoes are drying up. Spring sowing of timothy is killed. Corn a poor stand. No tree fruits." The foregoing is typical of conditions in that portion of the State.

DRAINAGE AND ENGINEERING NOTES.

Mr. A. D. Morhouse, Acting Chief of Drainage Investigations, has kindly furnished the following information relative to drainage work being done in Iowa:

Drainage Investigations of the Office of Experiment Stations, U. S. Department of Agriculture, have since May 16 been conducting a drainage survey of the upper Des Moines River. Up to July 1 the preliminary survey was completed, with the exception of soil borings, up to a point near Emmetsburg, Iowa. The survey consists of the following: A meander of the channel, line levels up the valley at intervals of one mile or less, meander of the flood line, and channel measurements. Numerous soil borings in Palo Alto County will also be made. The work began at the junction of the east and west forks, about 3 miles below Humboldt. Upstream to near Bradgate, Iowa, the banks are high and very little of the land is subject to overflow. In Palo Alto County, however, the overflowed land varies from a mile to a mile and a half wide. The surveying party consists of 10 men under Mr. O. G. Baxter, Drainage Engineer, and at present the camp is established 2 miles south of Emmetsburg, Iowa. S. H. McCrory and H. A. Kipp, Drainage Engineers, are making examinations of the drainage conditions in the counties of northern and southern Iowa, respectively. The above work is all being done under the direction of C. G. Elliott, Chief of Drainage Investigations, in cooperation with the Iowa State Drainage Waterways and Conservation Commission.

The survey of the Des Moines River was continued during the month of June, under the supervision of Mr. A. O. Rowse, U. S. Army Engineer. Topography on both sides of the river, covering area subject to overflow, soundings and probings of the river bottom and levels to determine water slope were taken for a distance of 19 miles, measured along the river. Twenty-five miles of base line and about 12 miles of topograph were platted.

The following is a summary of work accomplished by the army engineers on the Des Moines River during the fiscal year ended June 30, 1910: Transit line and line of levels for base of survey were made from the mouth of the river, near Keokuk to Des Moines, a distance of about 170 miles. Bench marks were established, high water elevations were determined, and 12 river gages were erected. Topography on both sides of the river, covering area subject to overflow, soundings and probings of river bottom and levels to determine water slope were taken from Des Moines to a point 27 miles down the river. Rectangular coordinates were computed for the base line and 35 miles of base line and 12 miles of topography were platted.

Mr. Whitney Gilbreath, chairman of the commissioners of the drainage district, Chester, Ill., furnished Mr. William E. Barron, Local Forecaster, U. S. Weather Bureau, Cairo, Ill., with the following:

The Degognia and Fountain Bluff Levee, located in Degognia and Fountain Bluff townships, Jackson County, Ill., is under way. The levee will be about 16 miles long and will protect an area of about 31,000 acres against a stage in the Mississippi River, equivalent to 40 feet by gage at St. Louis, Mo. The total cost will approximate \$140,000, including locks. The larger part of the land is now under cultivation, but some of it is subject to overflow at a stage of 33 feet.

TABLE 1.—Climatological data for June, 1910. District No. 5, Upper Mississippi Valley.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days, 0.1 inch or more.	Number of partly cloudy days.	Number of cloudy days.			
<i>North Dakota.</i>																				
Amenia.	Cass.	954	12	68.8	+ 5.6	101	27	30	2	49	1.22	- 2.41	0.56	0.0	4	16	5	9	sc.	
Bottineau.	Bottineau.	1,638	14	66.5	+ 10.5	102	29	27	4	47	1.94	- 1.83	0.69	0.0	12	15	7	8	se.	
Cando.	Towner.	1,488	8	64.6	+ 5.8	102	29	28	1	50	0.70	- 1.27	0.25	0.0	5					
Crosey.	Williams.	3																		
Devils Lake.	Ramsey.	1,482	4	68.4	+ 5.8	101	20	29	2	30	1.33	- 2.20	0.47	0.0	7	14	11	5	s.	
Donnybrook.	Ward.	1,760	10																	
Dunseith.	Rolette.	12	66.6	+ 6.4	106	20	24	4	44	1.00	- 2.05	0.40	0.0	5	14	8	8	w.		
Edmore.	Ramsey.	1,524	4	68.6		105	20	27	4	51	1.18	- 0.55	0.53	0.0	4	10	20	0	se.	
Forman.	Sargent.	1,249	15			100	30	30	1	41	3.14	- 0.37	1.42	0.0	5	20	3	7	sw.	
Grafton.	Walsh.	827	12	69.9	+ 7.2	101	20	32	5	46	0.00	- 3.38	0.00	0.0	0	13	15	2	s.	
Granville.	McHenry.	1,504	3	67.0		102 ^a	20 ^a	22	4	50	1.70		1.11	0.0	5					
Hannah.	Cavalier.	1,568	4	65.5		99	29	25	11	48	2.08		0.91	T.	4	18	8	4	se.	
Hansboro.	Towner.	2	66.2																	
Hillsboro.	Trail.	901	4	60.4		103	20	28	4	46	1.73		0.45							
Lakota.	Nelson.	1,519	3	60.4		99	20	25	2	45	0.42		0.54	0.0	4	18	11	1	s.	
Langdon.	Cavalier.	1,615	14	66.6		100	20	28	4	48	0.70		0.15	0.0	5	14	15	1	sw.	
Larimore.	Grand Forks.	1,134	14	68.5	+ 6.9	100	27	29	2	39	0.47	- 3.06	0.20	0.0	5	13	7	10	s.	
Linton.	Ransom.	1,001	5	67.6		98	21	28	2	43	1.95		0.89	0.0	5	19	3	8	sc.	
McKinney.	Ward.	1,640	15	65.4	+ 5.1	104 ^a	20	26	1†	51 ^a	1.29	- 2.98	0.47	0.0	5					
Manfred.	Wells.	1,605	8	67.7		104	20	28	2	44	2.04		0.93	0.0	6	19	7	4	se.	
Mayville.	Trail.	975	14	75.2	+ 12.3	95	20	44	1	21	0.52	- 2.91	0.32	0.0	3	26	4	0	s.	
Minot.	Ward.	1,557	11	68.6	+ 5.8	109	20	30	1†	48	0.48	- 3.28	0.17	0.0	6	19	5	6	n.w.	
Minto.	Walsh.	820	10	68.8	+ 5.3	102	27	29	3	42	0.54		0.25	0.0	4	20	9	1	s.	
Oriiska.	Barres.	1,270	4	67.0		95	21†	28	3	40	1.70		0.75	0.0	5	22	0	0	sc.	
Park River.	Walsh.	998	6	68.5		100	27	31	3	41	0.57		0.12	0.0	5					
Pembina.	Pembina.	789	11	68.8	+ 6.9	98	20†	30	1†	36	0.94	- 2.92	0.20	0.0	8	22	2	6	c.	
Portal.	Ward.	1,954	15																	
Power.	Richland.	1,020	17	67.7	+ 3.8	97	20	26	2	39	0.63	- 3.26	0.16	0.0	6	17	9	4	se.	
Pratt.	McHenry.	5	65.5			105	29	22	5	52	1.87		0.62	0.0	7	15	13	2	n.w.	
University.	Grand Forks.	830	18	67.6	+ 5.1	99	27†	28	2†	43	0.63	- 3.48	0.31	0.0	4	21	6	3	sw.	
Wahpeton.	Richland.	962	18	65.7	+ 0.1	96	20†	24	2	41	2.74	- 1.75	1.19	0.0	7	18	1	11	sc.	
Wahpeton.	Pembina.	966	5			101	20†	22	2	37	0.37		0.23	T.	3					
Willow City.	do.	1,471	16	67.8	- 5.4	105	19	32	2	48	1.40	- 2.03	0.50	0.0	8	7	18	5	sc.	
<i>Minnesota.</i>																				
Albert Lea.	Freeborn.	1,220	20	69.6	+ 3.2	98	24	40	3†	37	0.66	- 3.74	0.58	0.0	4	18	9	3	sc.	
Alexandria.	Douglas.	1,301	18	68.0	+ 4.0	95	20†	35	2	39	1.65	- 2.27	0.60	0.0	5	20	8	8	sw.	
Angus.	Polk.	870	8	67.3		98	27	24	2	46	0.43		0.24	0.0	3	13	15	2	s.	
Bagley.	Clearwater.	4	65.7																	
Baudette.	Beltrami.	1,084	1	67.4		97	21†	32	2	49	1.33		0.79	0.0	4	23	4	3	se.	
Beardsley.	Big Stone.	1,090	17	67.8	+ 4.0	97	20	31	2	38	2.33	- 1.46	1.04	0.0	6	18	6	6	sc.	
Beaulieu.	Mahnomen.	1,200	20	68.6		96	27	31	2	44	0.81		0.45	0.0	4	18	8	4	s.	
Bird Island.	Renville.	1,039	20	68.3	+ 2.7	95	20†	32	2	38	1.94	- 1.88	0.73	0.0	6	19	6	5	sc.	
Caledonia.	Houston.	1,179	17	68.6	+ 2.2	93	30	39	2	28	0.55	- 4.14	0.44	0.0	2	22	4	4	n.w.	
Campbell.	Wilkin.	984	4	66.4		96	20†	25	2	40	3.30		1.10	0.0	0	10	19	3	s.	
Cass Lake.	Cass.	1,306	4																	
Collegeville.	Stearns.	1,282	17	69.8	+ 3.8	94	20	33	2	31	1.67		0.15	0.0	1					
Crookston.	Polk.	863	20	70.0	+ 6.4	99	20†	29	2	37	0.62	- 3.02	0.27	0.0	4	22	1	7	s.	
Detroit.	Becker.	1,364	14	67.6	+ 5.7	97	16†	30	2	45	1.97	- 2.30	0.99	0.0	5	20	7	3	se.	
Fairmont (near).	Martin.	1,240	23	68.3	+ 2.3	92	20†	41	2	27	3.93	- 0.37	1.23	0.0	8	18	9	3	s.	
Fairbault.	Rice.	1,003	13	68.4	+ 3.3	96	22†	35	2	40	0.39	- 4.54	0.23	0.0	3	21	5	4	s.	
Farmington.	Dakota.	902	22	71.0	+ 5.1	100	22†	35	2	43	0.43	- 3.63	0.18	0.0	4	19	5	6	sc.	
Fergus Falls.	Hutchinson.	1,210	18	69.8	+ 4.9	96	21	34	2	33	1.14	- 2.73	0.30	0.0	5	18	7	4	sw.	
Fort Ripley.	Crow Wing.	1,136	4	69.0		99 ^a	20†	41	2	41	5.17	- 2.62	0.98	0.0	4	21 ^a	1 ^a	7	s.	
Fosston.	Polk.	1,280	1	64.4		90	27	29	2	46	0.59		0.30	0.0	5	16	12	2	sw.	
Glencoe.	McLeod.	1,000	14	68.2	+ 3.4	95	20†	33	2	38	1.63	- 2.78	0.68	0.0	4	17	10	3	sw.	
Grand Meadow.	Mower.	1,333	23	68.6	+ 2.1	99	27	35	2	39	0.05	- 5.57	0.03	0.0	2	23	5	2	s.	
Hallock.	Kittson.	815	11	68.4	+ 6.4	99	27	28	2	43	1.07	- 2.69	0.30	0.0	3	21	3	6	s.	
Halstad.	Norman.	870	4	68.6		98	29	29	2	46	0.88		0.40	0.0	0	7	19	4	7	s.
Hinckley.	Pine.	1,050	5	67.2		99	23	29	5	46	1.95		1.53	0.0	3	17	12	1	s.	
International Falls.	Koochiching.	1,112	2	67.4		99	21	34	2	46	1.63		0.42	0.0	6	19	9	2	sw.	
Kelliher.	Beltrami.	3	67.0			97	21	34	2	42	1.29		0.36	0.0	4	19	9	2	sw.	
Lake Crystal.	Blue Earth.	3	67.6			92	20†	41	2	32	1.95		0.58	0.0	6	22	3	5	s.	
Leech Lake Dam.	Cass.	1,301	22	65.2	+ 2.6	95	21	34	7	44	0.96	- 3.44	0.28	0.0	8	13	15	2	s.	
Little Falls.	Koochiching.	1,117	4	65.8		98	28	29	3	47	1.15		0.50	0.0	5	22	8	0		
Little Fork.																				
Long Prairie.	Todd.	1,290	18																	
Lynd (2).	Lyon.	1,175	18	66.3	+ 1.1	92	21	35	5	33	6.10	+ 2.07	3.30	0.0	5	20	4	6	sw.	
Mankato.	Mapleplain.	1,023	18	65.8	+ 4.0	97	21	30	5	46	1.15	- 3.66	0.56	0.0	6	13	14	3	sw.	
Milaca.	Mille Lacs.	1,072	13	65.8	+ 1.6	93	20	32	2	35	1.57	- 2.24	0.65	0.0	6	13	14	3	sw.	
Milan.	Chippewa.	955	16	66.5	+ 3.8	96	20	37	2	39	1.24	- 2.77	0.98	0.0	7	19	3	8	s.	
Minneapolis.	Hennepin.	918	19	71.2	+ 3.8	96	20	32	2	34	1.33	- 2.75	0.68	0.0	8	15	11	4	sw.	
Montevideo.	Chippewa.	900	23	68.8	+ 2.8	96	18	33												

TABLE 1.—Climatological data for June, 1910. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Number of rainy days of 1 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest. Date.	Lowest. Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.						
Minnesota—Cont'd.																		
Taylors Falls.	Chisago.	750	3	69.4		98 23†	36 2	42	2.70		1.10	0.0	3	22	4	4	s.	Mpls. Gen. Elec. Co.
Warrroad.	Roseau.	1,069	1	66.2		95 20†	31 6	40	1.67		0.93	T.	5	26	1	5	e.	John H. Sawyer.
West Concord.	Dodge.	1,232	1	68.5		97 29	37 2	37	0.04		0.04	0.0	1	19	6	5	sw.	H. H. Orcutt.
Willow River.	Pine.	1,046	12															J. A. Brandt.
Windom.	Cottonwood.	1,336	4	67.0		95 29	33 5	42	2.89		1.30	0.0	7	14	10	6	se.	Taber C. Richmond.
Winnebago.	Faribault.	1,100	11	69.4	+ 2.6	98 20	41 7	38	2.61	- 2.54	1.03	0.0	7	21	6	3	se.	H. H. Haight.
Winnibigoshish.	Itasca.	1,300	22	68.3	+ 5.7	97 27	35 2	39	0.84	- 3.20	0.34	0.0	6	21	7	2	s.	John Duncan.
Winona.	Winona.	700	15	71.8	+ 3.7	102 30	41 3†	39	0.25	- 3.55	0.22	0.0	3	21	4	5	sw.	Perry C. Myers.
Worthington.	Nobles.	979	15	66.4	+ 1.5	95 23	34 5	45	3.23	- 1.50	1.44	0.0	6	22	2	6	s.	W. I. Carpenter.
Zumbrota.	Goodhue.	917	15															W. C. Rowell.
South Dakota.																		
Milbank.	Grant.	1,148	18	66.6	+ 1.5	95 22	30 2	35	3.33	- 0.89	1.34	0.0	9	19	1	10	nw.	I. T. Partridge.
Wisconsin.																		
Antigo.	Langlade.	1,489	16			99 29	32 11	50	0.34		0.34	0.0	1	22	3	5	sw.	Elton C. Larselere.
Barron.	Barron.	1,115	18	66.6	+ 3.2	97 23	33 7	42	4.05	- 4.05	0.36	0.0	3	24	5	1	sw.	Wm. A. Kent.
Beloit.	Rock.	750	23	67.4	- 0.6	95 23†	38 7	35*	2.03	- 2.02	0.70	0.0	4	23	1	6	nw.	Smith Observatory.
Brodhead.	Green.	812	12	68.4	+ 0.8	101 30	36 1	40	1.65	- 1.88	0.75	0.0	4	21	8	1	sw.	Hecktor D. Kirkpatrick
Burnett.	Dodge.	880	6	66.2	- 1.0	98 30	38 2	41	0.63	- 0.18	T.	0.0	5	24	3	3	sw.	Geo. W. Smith.
Delavan.	Walworth.	920	17	66.4		98 30	37 1	37	1.24	- 2.22	0.72	0.0	6	22	3	3	s.	Elwood S. Austin.
Dodgeville.	Iowa.	1,116	11															Geo. Sell.
Downing.	Dunn.	983	8	66.6	+ 2.2	98 30†	32 7	48	0.65	- 4.06	0.65	0.0	1	17	7	6	se.	Willis B. Raymond.
Eau Claire.	Eau Claire.	800	19	69.5	+ 2.7	98 29	39 1†	37	0.50	- 4.07	0.48	0.0	3	23	4	3	ne.	Theodore Olsen.
Ellsworth.	Pierce.	1,063	2															Frederick B. Hamilton.
Glidden.	Ashland.	1,519	18	65.0	+ 2.2	97 20†	26 1	46	0.67	- 3.44	0.40	0.0	5	24	4	2	sw.	Walter S. Woods.
Grand Rapids.	Wood.	1,021	11	67.0	+ 0.7	100 28	36 1	43	0.65	- 2.47	0.45	0.0	3	17	11	2	sw.	William E. Swain.
Grantsburg.	Burnett.	1,093	19	69.8	+ 5.0	101 18	34 2	46	1.85	- 2.05	1.00	0.0	2	23	5	2	ne.	Edward S. Koepenick.
Hancock.	Waushara.	1,091	18	69.4	+ 2.8	102 30	36 1	41	0.66	- 3.59	0.58	0.0	2	21	6	3	sc.	U. S. Weather Bureau.
Hatfield.	Jackson.	973	15	67.2	+ 0.3	100 22†	32 1	45	0.50	- 4.00	0.32	0.0	3	23	3	4	s.	Frank Evans.
Hayward.	Sawyer.	1,197	19	66.6	+ 3.2	96 29†	31 1	47	1.04	- 3.09	0.55	0.0	3	18	8	4	n.	Edward Pollock.
Hillsboro.	Vernon.	1,000	19	65.1		98 23	29 1	46	0.34	- 4.13	0.12	0.0	3	21	8	1	sw.	Louis Frank.
Koepenick.	Langlade.	1,633	20	63.0	- 1.5	99 29	28 11	46	0.91	- 3.05	0.58	T.	4	21	5	2	s.	U. S. Weather Bureau.
La Crosse.	La Crosse.	714	38	69.8	+ 1.7	100 30	40 7	37	0.37	- 4.06	0.27	0.0	4	19	5	5	sw.	Frank J. Hitechock.
Lake Mills.	Jefferson.	897	19	67.6	+ 1.0	96 30	39 1	36	1.53	- 2.61	0.48	0.0	6	19	10	1	n.	Charles H. Johnson.
Lancaster.	Grant.	1,070	20	68.2	+ 0.6	98 30	39 1	43	1.03	- 3.12	0.42	0.0	5	22	4	4	sw.	William A. R. Van Meter.
Long Lake.	Oneida.	1,592	2	62.3		99 29	35 2†	54	0.50		0.36	0.0	4	23	5	2	n.	Frederick Hebard.
Madison.	Dane.	974	32	68.8	+ 2.0	97 30	40 2	28	1.31	- 2.79	0.39	0.0	7	20	6	4	nw.	W. M. Lewis.
Mather.	Juneau.	962	6	65.7		101 29	31 7	50	0.30		0.22	0.0	4	21	7	6	sw.	William Eckstein.
Mauiston.	do.	882	14	69.6	+ 4.2	97 23	35 1	47	0.68	- 3.90	0.40	0.0	3	23	5	2	se.	William Headlett.
Meadow Valley.	do.	974	19	67.1	+ 1.7	104 30	31 1	51	0.37	- 3.76	0.22	0.0	4	12	16	0	sw.	Francis A. R. Van Meter.
Medford.	Taylor.	1,420	19	66.4	+ 1.3	98 29	32 1†	42	0.42	- 4.18	0.45	T.	4	25	4	1	w.	Charles Zeit.
Merrill.	Lincoln.	1,267	4	67.6		100 29	33 1†	51	0.56		0.30	T.	4	23	3	3	sw.	Frank M. McElroy.
Minoqua.	Vilas.	1,604	6	65.0		99 29	32 1†	46	0.33		0.25	0.0	2	23	6	1	s.	Dr. Charles Hebard.
Mondovi.	Buffalo.	738	2	67.6		100 29	34 7	43	0.31		0.20	0.0	3	21	6	3	nw.	W. R. Vandike.
Mount Horeb.	Dane.	1,226	6	68.2		99 30	40 2†	55	1.10		0.25	0.0	2	20	8	2	w.	George H. Halder.
Muscoad.	Grant.	866	1	69.8		102 28	38 1	44	1.24		0.52	0.0	5	17	7	6	sw.	Miss Etta Stiles.
Neillsville.	Clark.	896	21	68.6	+ 3.7	104 29	38 1	45	0.51	- 4.40	0.27	0.0	2	23	7	6	sw.	John Lind.
New Richmond.	St. Croix.	990	5	69.7		100 29†	35 2	45	0.30		0.26	0.0	3	21	6	3	sw.	Kilien Derleth.
Osecola.	Polk.	806	19	69.5	+ 4.8	102 23	35 7	48	0.90	- 3.85	0.35	0.0	3	21	7	7	s.	Harrison B. Chamberlin.
Portage.	Columbia.	809	14	69.6	+ 2.9	99 30†	39 1	41	0.88	- 3.23	0.50	0.0	4	23	6	1	sw.	Horace A. Sayles.
Prairie du Chien.	Crawford.	690	23	69.6	+ 0.2	100 23	30 7	42	3.02	- 1.22	2.30	0.0	5	20	3	7	s.	Horace A. Seeley.
Prentice.	Price.	1,551	12	63.2	+ 1.1	96 29†	24 1	46	0.51	- 4.58	0.51	0.0	1	17	9	4	s.	James Clear.
Rhineland.	Oneida.	1,550	4	65.7		98 29†	33 11	43	0.53		0.30	0.0	5	20	5	5	sw.	Jas. A. Gillis.
Sauk City.	Sauk.	758	2															Joseph G. Lash.
Shullsburg.	Lafayette.	1,019	4	66.8		95 30	36 7	35	1.89		0.61	0.0	6	19	8	3	sw.	John M. Sayles.
Solon Springs.	Douglas.	1,083	4	65.9		97 29	32 3	46	1.20		1.10	0.0	2	26	0	4	sw.	Horace A. Bresce.
Spencer.	Washburn.	1,104	15	68.6	+ 4.7	99 23	37 2†	40	1.25	- 2.54	1.00	0.0	4	25	2	3	sw.	W. Humphrey Scott.
Stanley.	Chippewa.	1,082	6	65.4		97 29†	31 1	42	0.34		0.22	0.0	3	24	6	6	sw.	Garry E. Culver.
Stevens Point.	Portage.	1,113	17	68.9	+ 3.4	101 30	35 1	45	1.11	- 3.06	1.01	0.0	2	23	7	6	sw.	Frederick Muermann.
Valley Junction.	Monroe.	930	18	67.4	+ 2.1	101 30	33 7	46	0.54	- 3.60	0.19	0.0	4	21	5	4	nw.	Henry E. Rogers.
Viroqua.	Vernon.	1,412	19	70.7	+ 5.0	100 29	28 3	46	1.25	- 4.18	0.09	0.0	7	22	3	2	sw.	Louis L. Thomas.
Vudesare.	Vilas.	1,600	2	63.4		96 29†	29 3	46	T.		T.	0.0	0	24	4	2	w.	Charles J. Salick.
Watertown.	Jefferson.	824	19	68.8	+ 0.6	93 23	41 3†	37	1.83	- 2.05	0.70	0.0	5	21	8	9	sw.	Carroll College.
Waukesha.	Waukesha.	864	14	66.6	+ 0.5	96 30	37 2	42	1.68	- 1.71	0.70	0.0	6	20	9	1	e.	George H. Halder.
Marathon.	Marathon.	1,212	17	67.9	+ 3.3	98 29	37 2	47	0.94	- 3.24	0.37	0.0	3	24	6	0	n.	Miss Etta Stiles.
Rusk.	Benton.	1,297	3	65.2	- 0.1	96 29	40 7	47	1.91	- 1.41	0.4	0.0	4	21	7	2	nw.	Henry A. Towner.
Trempealeau.	Wright.	875	18	67.4	+ 1.2	98 29†	32 1	45	0.20	- 4.10	0.20	0.0	1	24	0	6	w.	B. R. Vale.
Bloomfield.	Davis.	3																Carl Frits Henning.
Bonaparte.	Van Buren.	19		69.4	- 1.8	95 26†	43 3	33	1.33	- 3.35	0.36	0.0	6					L. M. Goodman.
Boone.	Carroll.	1,134	5	70.2		98 18†	42 4	31	3.21	- 1.57	0.0	0	5	21	2	7		W. A. Daniel.
Britt.	Hancock.	1,236	13	67.8	+ 0.7	94 20	39 7	35	4.02	- 0.06	1.68	0.0	8	19	7	4	s.	Max E. Poppe, Jr.
Buckingham.	Tama.	10																W. J. Greene.
Burlington.	Des Moines.																	

TABLE 1—Climatological data for June, 1910. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.				Precipitation, in inches.				Number of rainy days, 0.1 inch or more.	Number of clear days.	Number of cloudy days.	Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Date.	Greatest daily range.	Date.	Total.	Departure from the normal.	Greatest in 24 hours.						
<i>Iowa—Cont'd.</i>																		
Fairfield.	Jefferson.	26	70.2	+ 0.3	95 ^a	19 ^t	44 ^t	31 ^t	35 ^b	0.75	- 4.38	0.36	0.0	6	22	3	n.	
Fayette.	Fayette.	1,003	68.4	+ 1.1	98	30	36	7	45	1.27	- 4.08	0.50	0.0	4	25	1	se.	
Forest City.	Winnebago.	1,226	68.8	+ 1.6	95	19 ^t	41	2	35	2.48	- 2.15	1.00	0.0	7	25	2	s.	
Fort Dodge.	Webster.	1,126	69.6	+ 3.0	95	20	43	2 ^t	35	4.38	+ 0.57	2.05	0.0	8	20	1	9	
Fort Madison.	Lee.	516	61							2.31	- 2.07	0.82	0.0	6	8	10	s.	
Gilman.	Marshall.	1,052	11							4.01	- 0.73	1.77	0.0	6				
Grand Meadow.	Clayton.	1,180	67.4	+ 1.0	90	24 ^t	40	31	31	2.36	- 2.24	2.10	0.0	6	22	3	nw.	
Greene.	Butler.	12	71.2	+ 3.1	103	19 ^t	38	7	46	1.08	- 3.04	0.31	0.0	8	13	5	w.	
Grinnell.	Powershiek.	1,023	71.4	+ 3.1	98	18 ^t	45	7	37	1.29	- 3.19	0.91	0.0	5	18	7	n.	
Grundy Center.	Grundy.	976	68.8	+ 0.6	97	20 ^t	39	7	43	3.02	- 2.28	1.70	0.0	6	19	1	10	
Guthrie Center.	Guthrie.	1,077	69.8	+ 0.8	98	18	42	5	38	2.55	- 1.86	1.51	0.0	10	23	2	sc.	
Hampton.	Franklin.	1,155	70.4	+ 2.6	100	20	40	7	39	1.83	- 3.08	0.65	0.0	8	16	3	nw.	
Humboldt.	Humboldt.	1,095	65.5	- 0.3	95	18	38	7	37	3.92	- 0.79	1.83	0.0	9	24	1	se.	
Independence.	Buchanan.	921	68.4	0.0	98	24	39	7	38	1.49	- 3.29	1.03	0.0	3	2	4	se.	
Indianola.	Warren.	989	70.3	+ 0.6	94	15 ^t	46	5	35	1.56	- 2.62	0.72	0.0	9	14	4	ne.	
Iowa City.	Johnson.	633	68.4	- 0.9	97	30	37	7	38	0.98	- 3.60	0.70	0.0	5	25	0	nw.	
Iowa Falls.	Hardin.	1,170	68.1	+ 0.6	97	20	38	7	41	2.84	- 1.68	0.93	0.0	7	26	0	nw.	
Jefferson.	Greene.	11																
Keokuk.	Lee.	547	71.8	- 0.7	97	30	45	3	29	1.34	- 3.01	0.60	0.0	7	20	8	ne.	
Kenoshaqua.	Van Buren.	644	69.7	- 2.0	98	30	40	3	38	0.90	- 3.65	0.41	0.0	5	7	16	7	
Knoxville.	Marion.	920	71.0	- 0.6	96	22	45	3	37	1.71	- 0.61	1.75	0.0	7	8	15	ne.	
LeClaire.	Warren.	11								2.06	- 2.95	0.94	0.0	5	13	2		
Scott.	Scott.	576	10							0.65	- 3.44	0.19	0.0	7	24	2	se.	
Marshalltown.	Marshall.	947	68.8	+ 0.1	96	20 ^t	40	7 ^t	39	2.57	- 1.79	0.88	0.0	7	24	4	se.	
Mason City.	Cerro Gordo.	1,132	67.4	+ 0.2	94	24	36	7	39	1.20	- 4.69	0.48	0.0	5	20	7	3	
Mount Pleasant.	Henry.	729	71.0	- 0.4	101	18	39 ^t	3	46	1.16	- 3.32	0.65	0.0	6	19	8	sw.	
Muscatine.	Muscatine.	50								2.62	- 2.24	1.45	0.0	6				
New Hampton.	Chickasaw.	1,169	69.1	+ 2.8	97	29 ^t	40	7 ^t	39	0.87	- 3.38	0.37	0.0	5	22	5	s.	
Newton.	Jasper.	944	70.6	+ 0.9	95	20	45	2	30	3.17	- 1.42	1.35	0.0	4	17	9	4	
Northwood.	Worth.	1,222	70.6	+ 4.6	94 ^a	24	33	5	37 ^b	0.87	- 4.01	0.38	0.0	5	20	5	nw.	
Olin.	Jones.	760	68.1	+ 0.9	99	30	38	7	43	1.46	- 2.28	0.58	0.0	5	21	9	1	
Ossage.	Mitchell.	1,184	69.8	+ 3.7	95	20 ^t	39	7 ^t	40	0.68	- 3.85	0.37	0.0	3	21	4	nw.	
Oskaloosa.	Mahaska.	843	70.0	+ 0.5	94	18 ^t	45	7	34	1.99	- 2.12	1.05	0.0	5	24	5	e.	
Ottumwa.	Wapello.	649	72.2	+ 1.0	99	21	30	47	5	34	1.01	- 3.07	0.58	0.0	4	18	0	sc.
Pella.	Marion.	877	68.8		97	18 ^t	41	7	39	2.77		0.99	0.0	9	25	0	nw.	
Perry.	Dallas.	975	70.0		96	18	43	5 ^t	36	2.25		0.94	0.0	10	13	3	se.	
Plover.	Pocahontas.	1,426	68.6	+ 1.0	99	24	38	5	40	5.24	+ 0.89	1.27	0.0	9	25	3	se.	
Pocahontas.	do.	1,248	67.1		95	20	39	5	41	3.67		0.99	0.0	9	19	6	5	
Ridgeway.	Winnesheik.	1,215	70.8	+ 2.5	100	28	40	3 ^t	38	0.19	- 3.96	0.15	0.0	3	22	5	s.	
Rockwell City.	Calhoun.	12	69.6	+ 1.1	96	18 ^t	41	6	35	1.78	+ 0.52	2.23	0.0	5	24	3	sw.	
Sac City.	Sac.	1,278	34		93 ^b	19 ^t				1.39	- 3.47	0.72	0.0	5				
St. Charles.	Madison.	1,070	70.3		94	18 ^t	45	2	28	1.26		0.41	0.0	6	23	6	2	
Sigourney.	Keokuk.	877	69.6	- 1.2	97	30	44	7 ^t	35	1.55	- 2.43	0.53	0.0	8	24	3	se.	
Stockport.	Van Buren.	8	69.0		100	30	40	7	40	1.04		0.70	0.0	7	21	5	4	
Storm Lake.	Buena Vista.	1,440	68.6	+ 1.6	92	18	39	5	33	2.00	- 2.79	0.73	0.0	9	18	8	sw.	
Stuart.	Guthrie.	1,216	70.6	+ 1.0	98	19	42 ^t	4	35	1.85	- 2.48	1.05	0.0	4				
Tipton.	Cedar.	807	73.8	+ 3.9	102	30	45	7	34	0.46	- 3.48	0.28	0.0	4	25	4	ne.	
Toledo.	Tama.	856	69.4	+ 0.2	95	24	42	2 ^t	35	2.43	- 1.10	0.90	0.0	6	24	3	se.	
Wapello.	Louisa.	588	68.7	- 0.9	90	19 ^t	41	3	38	2.91	- 0.65	1.57	0.0	8	18	10	1	
Washington.	Washington.	769	70.0	- 1.7	95	30	43	1	31	1.40	- 2.11	0.60	0.0	5	16	12	sw.	
Waterloo.	Black Hawk.	862	70.0	+ 1.8	97	30	40	7	38	1.84	- 2.02	0.76	0.0	8	21	6	3	
Waupaca.	Dallas.	1,039	69.3		95	22	44	3 ^t	32	1.46		0.58	0.0	10	17	9	4	
Waverly.	Bremner.	943	68.6	+ 1.1	95	24	40	7	35	1.67	- 2.58	0.68	0.0	8	16	10	2	
Webster City.	Hamilton.	1,197	69.0	+ 1.6	97	24	38 ^t	2	37	3.25	- 0.97	1.86	0.0	9	15	11	4	
West Bend.	Palo Alto.	1,087	69.0	+ 1.1	97	24	38	3	37	1.40	- 1.63	2.00	0.0	3	19	7	nw.	
Whittem.	Hardin.	1,038	69.0	+ 1.1	97	24	40	3	38	2.43	- 1.90	0.73	0.0	5	14	9	7	
Winterset.	Madison.	1,129	70.0	- 0.1	96	20	45	4 ^t	32	1.33	- 4.50	0.45	0.0	5	14	9	7	
Zearing.	Story.	6																
<i>Missouri.</i>																		
Gorin.	Scotland.	700	24							1.35	- 2.38	0.67	0.0	6	17	5	sw.	
Hannibal.	Marion.	534	70.4	- 2.0	92	30	46	3	30	4.39	+ 0.87	2.93	0.0	9	17	7	sw.	
Louisiana.	Pike.	500	69.0	- 2.4	93	24	38	3	35	1.92	- 2.27	0.52	0.0	9	14	11	5	
Mexico.	Audrain.	707	69.8	- 3.7	93	19	41	7	32	4.21	- 1.13	1.11	0.0	13	16	1	sc.	
Steffenville.	Lewis.	576	70.7	- 0.9	93	30	44	3	30	1.41	- 2.89	0.80	0.0	4	19	9	2	
Sublett.	Adair.	1,000	70.2	- 1.4	94	19 ^t	47	1 ^t	34	3.10	- 1.63	2.00	0.0	3	15	8	s.	
Warrenton.	Warren.	865	70.6	- 2.8	94	24	40	3	31	4.22	- 0.32	1.37	0.0	10	13	2	c.	
<i>Indiana.</i>																		
Collegeville.	Jasper.	11	66.2	- 2.1	96	30 ^t	38	6	39	0.96	- 2.69	0.41	0.0	4	0	13	17	nw.
Knox.	Starke.	716	57.5	- 0.7	96	30	41	1 ^t	36	0.56		0.39	0.0	0	4	22	5	ne.
Laporte.	Laporte.	810	14															
Plymouth.	Marshall.	790	65.6		94	30	39	3	36	0.76		0.35	0.0	5	18	11	1	
<i>Illinois.</i>																		
Aledo.	Mercer.	738	69.8	+ 1.0	95	19 ^t	42	2 ^t	32	2.82	- 0.85	1.22	0.0	7	17	10	3	
Alexander.	Morgan.	670	70.2	- 1.7	94	24	42	3	32	3.13	- 0.59	1.22	0.0	11	13	12	nw.	
Antioch.	Lake.	861	68.0		100	30	40	4	32	4.13	- 0.85	0.88	0.0	2	21	7	ne.	
Astoria.	Fulton.	650	68.8	+ 0.2	93	19 ^t	41	3 ^t	32	2.82	- 1.23	1.25	0.0	9	14	9	7</	

TABLE 1.—Climatological data for June, 1910. District No. 5—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, yrs.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.	
				Mean.	Departure from the normal.	Highest.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeasured.	Number of rainy days, .01 inch or more.	Number of clear days.	Number of partly cloudy days.	Number of cloudy days.		
Illinois—Cont'd.																			
Henry.	Marshall.	500	23	70.2	- 0.2	98	30	40	1 36	0.96	- 3.20	0.35	0.0	6	17	8	5	ne.	Dr. F. A. Powell.
Hillsboro.	Montgomery.	675	16	70.0	- 2.7	95	24	42	7 31	3.57	- 0.54	0.85	0.0	9	18	5	7	ne.	Ira L. Woodward.
Joliet.	Will.	541	19	68.0	- 1.3	95	30	41	1 34	0.81	- 2.46	0.39	0.0	4	23	3	4	ne.	F. M. Muhlig.
Kishwaukee.	Winnebago.	730	23	68.0	- 0.4	100	30	37	1 42	0.63	- 3.49	0.31	0.0	5	19	9	2	ne.	Geo. Stevens.
La Grange.	Cook.	657	18	67.6	- 0.5	97	30	41	1† 42	1.06	- 2.97	0.41	0.0	4	22	6	2	sw.	Prof. F. E. Sanford.
La Harpe.	Hancock.	698	31	68.4	- 2.9	96	30	43	3† 35	1.99	- 2.35	0.50	0.0	8	20	6	4	se.	Jno. S. Campbell.
Lanark.	Carroll.	883	21	66.0	- 1.8	99	30	32	1 45	0.71	- 3.39	0.29	0.0	5	26	2	3	ne.	M. N. Wertz.
La Salle.	La Salle.	536	33	70.0	- 0.1	99	30	31	1 36	0.89	- 3.10	0.27	0.0	8	19	6	5	ne.	U. S. Weather Bureau.
Lincoln.	Logan.	488	22	68.8	- 2.7	93	19†	35	3† 36	1.33	- 2.35	0.63	0.0	7	14	13	3	w.	Prof. C. S. Oglevee.
Martinton.	Iroquois.	633	23	69.6	- 0.2	98	22	39	1† 37	1.25	- 2.42	0.48	0.0	6	18	6	6	ne.	Jos. H. Peltier.
Mascoutah.	St. Clair.	425	20	72.6	- 1.4	97	19†	42	4 37	6.42	+ 1.87	2.87	0.0	9	14	13	3	se.	Geo. Henrich.
Minonk.	Woodford.	745	17	70.4	+ 0.3	100	23	38	1† 40	4.07	+ 0.87	1.75	0.0	6	19	9	2	ne.	O. M. Davison.
Mouthmouth.	Warren.	784	18	70.7	+ 0.1	98	30	43	3† 37	1.97	- 1.75	0.86	0.0	9	19	10	1	ne.	Hugh R. Moffet.
Morrison.	Whiteside.	685	16	67.6	- 0.9	97	30	37	7 42	0.40	- 3.33	0.18	0.0	6	20	7	3	ne.	S. A. Maxwell.
Mount Vernon.	Christian.	638	11	69.2	- 1.2	93	24	41	3 34	3.77	- 0.18	1.10	0.0	9	19	8	3	nw.	J. D. Lewis.
Oregon.	Jefferson.	511	16	72.4	- 1.6	98	24	42	3 37	1.75	- 2.42	0.52	0.0	7	20	5	5	c.	Theo. P. Stelle.
Ogle.	La Salle.	702	1	67.4	- 1.2	98	30	36	1† 42	0.20	- 2.34	0.43	0.0	5	20	3	1	ne.	Samuel Ray.
Ottawa.	Christian.	500	24	69.6	- 1.2	95	19	39	3 33	2.52	- 1.58	0.65	0.0	8	25	3	2	ne.	Miss M. M. Harris.
Pana.	Peoria.	608	23	68.8	- 1.1	98	30	43	7 36	0.78	- 3.52	0.23	0.0	7	16	11	3	o.	C. W. Sibley.
Pearis.	Livingston.	546	8	70.8	- 1.0	100	23	39	1† 35	2.14	- 0.75	0.70	0.0	8	14	10	6	sw.	U. S. Weather Bureau.
Riley.	McHenry.	956	51	68.4	+ 1.3	97	30	37	2 40	0.80	- 3.17	0.46	0.0	5	18	10	2	ne.	Geo. Butterworth.
Rockford.	Winnebago.	763	18	68.8	- 0.4	98	30	40	3 39	0.72	- 3.48	0.33	0.0	6	23	1	6	sw.	John West James.
Rushville.	Schuyler.	670	19	69.5	- 2.5	92	26†	44	3 33	0.61	- 3.01	0.23	0.0	7	15	12	3	s.	Hosmer C. Porter.
St. Charles.	Kane.	700	15	67.6	- 1.2	98	30	36	1 44	0.74	- 2.57	0.30	T	4	18	12	0	ne.	H. F. Dyson.
St. Peter.	Fayette.	500	8	70.7	- 0.5	93	19†	43	3 37	2.16	- 1.49	0.0	0.0	8	10	17	3	nw.	Dr. Wm. H. Bishop.
Springfield.	Sangamon.	644	33	71.8	- 0.6	97	19	42	3 37	4.58	+ 0.27	1.61	0.0	10	14	10	6	e.	M. L. Lansford.
Streator.	La Salle.	626	17	70.6	+ 0.1	99	22†	37	3 41	2.98	- 0.39	1.94	0.0	6	24	3	3	sw.	U. S. Weather Bureau.
Sullivan.	Moultrie.	530	10	70.6	- 0.1	97	19†	39	3† 37	2.01	- 2.13	1.31	0.0	4	16	13	1	sw.	Edw. F. Sweetser.
Sycamore.	De Kalb.	855	30	69.2	+ 1.4	101	30	38	1† 48	0.78	- 3.41	0.40	0.0	12	23	5	5	sw.	C. A. Corbin.
Tilden.	Randolph.	500	24	70.3	- 3.5	93	24	43	3 33	2.90	- 0.70	1.12	0.0	7	18	5	5	s.	Miss E. J. Davis.
Tiskilwa.	Bureau.	798	16	69.2	- 0.4	97	30	39	3 38	1.52	- 2.14	0.38	0.0	7	22	4	4	e.	Jas. A. Caldwell.
Walnut.	do.	717	19	71.2	+ 0.2	100	30	40	3 38	0.69	- 2.06	0.26	0.0	6	19	9	2	sw.	F. L. Smucker.
White Hall.	Greene.	573	2	69.4	- 0.8	93	19	41	3 34	1.80	- 0.68	0.0	0.0	9	13	11	6	ne.	O. C. Nusale.
Windsor.	Shelby.	681	11	70.1	- 0.8	97	19	36	3 41	2.73	- 1.23	1.10	0.0	6	8	18	4	sw.	Dr. R. A. Pritchett.
Winnebago.	Winnebago.	900	23	67.9	- 0.3	98	30	38	1† 40	1.01	- 2.99	0.38	0.0	5	23	5	2	ne.	Herbert Rose.
Yorkville.	Kendall.	584	23	68.2	- 0.3	98	20†	38	1† 46	1.02	- 2.89	0.50	0.0	3	25	1	4	w.	Frank Osborn.
Zion.	Carroll.	938	16	68.4	+ 0.3	98	30	39	7 40	0.82	- 2.79	0.63	0.0	3	26	2	2	e.	Herman A. Grimwood.
																		Robt. F. Gillogly.	

^a, ^b, ^c, etc., indicate, respectively, 1, 2, 3, etc. days missing from the record.

• Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry-bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

|| Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

■ Estimated by observer.

¶ Precipitation for the 24 hours ending on the morning when it is measured.

T Precipitation is less than 0.01 inch rain or melted snow.

TABLE 2.—*Daily precipitation for June, 1910. District No. 5, Upper Mississippi Valley.*

TABLE 2.—*Daily precipitation for June, 1910. District No. 5—Continued.*

Stations.	River basins.	Day of month.																														Total.		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
<i>Minnesota—Cont'd.</i>																																		
Winona.	Mississippi.								.02	.23																								0.25
Worthington	Des Moines.								.18	.38																							3.23	
Zumbrota.	Mississippi.																																	
<i>South Dakota.</i>																																		
Milbank.	Minnesota.	.08							.04	T.	.18																						3.33	
Waukon.																																		
Antigo.	Wisconsin.																																	0.34
Baron.	Chippewa.									T.	.16	.22																					0.74	
Beloit.	Rock.	.64									.59																						2.03	
Brookhead.	do.	.50									.22	.18																				1.65		
Burnett.	do.	.18									T.	.18	.11																			0.63		
Delavan.	do.	.72									.29	.04																				1.24		
Dodgeville.																																		
Downing.	Chippewa.										T.	T.																					0.65	
Eau Claire.	do.										T.	.08	.48																			0.59		
Ellsworth.	Mississippi.	.07																															0.67	
Glidden.	Chippewa.																																0.65	
Grand Rapids	Wisconsin.																																0.65	
Grantsburg.	St. Croix.																																1.85	
Hancock.	Wisconsin.																																0.66	
Hatfield.	Black.																																0.50	
Hayward.	St. Croix.	.19	T.	.30																													1.04	
Hillsboro.	Wisconsin.	T.	.13	.12																												0.34		
Koepenick.	do.	.23		.58	.05																											0.91		
La Crosse.	Mississippi.								.02	.06																						0.37		
Lake Mills.	Rock.	.48		.18	.04	T.																										1.53		
Lancaster.	Mississippi.	.42		.18	.04																											1.03		
Long Lake.	Wisconsin.																																0.50	
Madison.	Rock.	.23		.38	.08	.03																										1.31		
Mather	Wisconsin.								.02	.22	.02																					0.30		
Mauiston.	do.								.15	.13																						0.68		
Meadow Valley.	Black.																																0.37	
Medford.	Wisconsin.	T.	.30	.22																												0.92		
Merrill.	Wisconsin.	T.	.30	.22																												0.56		
Minocqua.	do.																																0.33	
Mondovi.	Mississippi.	.01																															0.31	
Mount Horeb.	Rock.	.02	T.	.20	.23	.02																										1.10		
Muscoad.	Wisconsin.	.28	T.																														1.34	
Neillsville.	Black.																																	0.51
New Richmond.	St. Croix.								T.	.04																						0.90		
Oscoda.	do.								T.	.30																							0.90	
Portage.	Wisconsin.	.08																															0.88	
Prairie du Chien	Mississippi.	.30																															3.02	
Prentice.	Chippewa.	T.																															0.51	
Rhineland.	Wisconsin.	.01																															0.53	
Sauk City.	do.																																	
Shullsburg.	Mississippi.	.42																															1.89	
Solon Springs.	St. Croix.	.10																															1.20	
Spooner.	do.	.08	T.																														1.25	
Stanley.	Chippewa.	T.	.09	.22																												0.34		
Stevens Point.	Wisconsin.																																1.11	
Valley Junction.	do.																																0.54	
Viroqua.	Mississippi.	.05																															0.25	
Vudouare.	Wisconsin.	T.																															1.83	
Watertown	Rock.	.15	.14	.34																												1.68		
Waukesha.	Fox.	.37		.24	.08																											0.94		
Wausau.	Wisconsin.			.30	.37																											1.91		
Weyerhaeuser.	Chippewa.			.03	T.																											0.20		
Whitehall.	Mississippi.																																	
<i>Iowa.</i>																																		
Albia	Des Moines.	.03	.03	.08	T.	.18																										1.72		
Algona.	do.																															3.56		
Altal	Raccoon.	.10	T.	.02	.03	.02																									2.27			
Amana.	Iowa.	.01	.03	.59	T.																										1.72			
Ames.	Skunk.	T.		.11	.03																										2.88			
Baxter.	do.	.01		.08	.07																													

TABLE 2.—*Daily precipitation for June, 1910. District No. 5—Continued.*

Stations.	River basins.	Day of month.																														Total.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	
<i>Iowa—Cont'd.</i>																																	
Indianola.	Des Moines.	.03	T.	.06	.06	T.	.54	.01	.72																								1.56
Iowa City	Iowa.		.08	T.	T.	.03		.70	.05																							0.98	
Iowa Falls	do.	T.	.06	T.	T.	.17	.32		.68	.93																						2.84	
Jefferson.	Raccoon.		.01	.03	.04	T.	.38	.60																								1.34	
Keokuk.	Mississippi.	T.	.04		.11	T.	.41	.23																								0.90	
Kenosha	Des Moines.	T.	.07	T.	T.	T.	.75	.08	.23																						3.71		
Knoxville.	do.		.08	T.	T.	.10			.55	.94																					3.06		
Leona.	do.		.07	.12	.08				.17																						0.85		
Lo Claire	Mississippi.	T.																														2.57	
Marshalltown	Iowa.	T.	.12		.08				.88	.50																					1.16		
Mason City.	Cedar.		.17		.27			.25	.48																						1.20		
Mount Pleasant.	Skunk.		.10	.03	.02	T.	.21	.15	.65																					1.16			
Muscatine	Mississippi.		.06		.19				.82	.09																				2.62			
New Hampton.	Wapsipinicon.		.22		.06	T.																									0.87		
Newton.	Skunk.	T.							.97	.55																				3.17			
Northwood.	Cedar.		.14						.06	.38	.21																			0.87			
Olin.	Wapsipinicon.		.10		.30					.29																					1.46		
Osage.	Cedar.					T.			.37		.23																				0.68		
Oskaloosa.	Des Moines.		.10	T.	T.	T.			.82	.23	T.																			1.99			
Ottumwa.	do.	T.	T.	T.	T.				.31	.56	T.																			1.01			
Pella.	T.	.10	T.	T.	.05	T.	.99	.10	.63																				2.77				
Perry.	Raccoon.		.12		.06	.05			.55	* .94	.06																		2.25				
Plover.	Des Moines.	T.	.05	.30					.69	1.10	.58																		5.24				
Pocahontas.	do.	T.	.02	.12					.87	.45	.50																		3.67				
Ridgeway.	Mississippi.		.15		.01	T.			T.	T.	T.																		0.19				
Rockwell City.	Raccoon.	T.	.10	T.					1.30	.50	.65																		4.78				
Sac City.	do.			.25	T.				.72	.28	.20																		1.39				
St. Charles.	Des Moines.		.26	T.		.01			.40	.09	.41																		1.26				
Sigourney.	Skunk.	T.	.05	.02	T.				.09	.50	.53																		1.55				
Stockport.	do.		.03	.04	.01	04			.36	.24	.22																		1.04				
Storm Lake.	Raccoon.		.06	.05	.08				.73	.29	.34																		2.00				
Stuart	do.	T.	.20	T.					.56	.04	T.																			1.85			
Tipton.	Cedar.		.10		.03	.05	T.		.28																					0.46			
Toledo.	Iowa.			.25	T.	.15	*	.00	.38																				2.43				
Wapello.	do.		.03	.23	.03				.10	.41	.43																		2.91				
Washington.	Skunk.		.01	.12					.60	.34																			1.40				
Waterloo	Cedar.		.07	.22	.06				.58	.02																			1.84				
Waukee.	Raccoon.		.02						.53	.06	.43																		1.46				
Waverly.	Cedar.		.07	.08	.29	.04			.25	.18																			1.67				
Webster City.	Des Moines.			.10	.08				10	1.22	1.48	T.																4.95					
West Bend.	Des Moines.		.04		.03	.19			67	1.48	.38	T.																3.26					
Iowa.	Whitten.			.12	.15				.72	.19	.50																		2.43				
Winterset.	Des Moines.		.15	T.	T.	T.			.45	.25	.44																		1.33				
Zearing.	Iowa.																																
<i>Missouri.</i>																																	
Darksville.	Chariton.																														1.35		
Gorin.	Mississippi.																														1.35		
Hannibal.	do.		.01	.07	.07	.01	T.	T.	.40	1.32	.89																		4.39				
Louisiana.	do.		.25	.20			T.		.52	.01	.44																		1.92				
Mexico	do.		.04	.01	.11	.20			.04	.10	.77	.58	.16															4.21					
Steffenville.	do.					.27	T.		.26	.08																			1.41				
Sublett.	do.					.100				.10																			3.10				
Warrenton	do.					.03	T.		1.37	.33		.02	.01	.60	.26													4.22					
<i>Indiana.</i>																																	
Collegeville.	Iroquois.		.20							.20		T.																		0.96			
Knox.	Kankakee.		.39		.05	.10	.02					T.																0.58					
Leopold.	do.																												0.76				
Plymouth.	do.		.35	T.	.09	.12																											
<i>Illinois.</i>																																	
Aledo.	Mississippi.		.09		.13																									2.82			
Alexander.	Illinois.		.03	T.	.09	.11	T.																						3.13				
Antioch.	do.		.85																											1.30			
Astoria.	Illinois.		.08	T.	.08	.08																							2.82				
Aurora.	do.				T.	.46																							0.50				
Bement.	Mississippi.		.02		.22																									1.67			
Benton.	do.				.15																									1.90			
Bloomington.	Illinois.		.15	T.	.03	.12																											

TABLE 2.—*Daily precipitation for June, 1910. District No. 5—Continued.*

TABLE 3.—*Maximum and minimum temperatures at selected stations, June, 1910. District No. 5, Upper Mississippi Valley.*

Date.	North Dakota.										Minnesota.																													
	Bottineau. ^{ff}			Devils Lake.			Lisbon. ^{ff}			Minot. ^{ff}			Pembina. ^{ff}			Collegeville.			Crookston. ^{ff}			Grand Meadow.			Montevideo. ^{ff}			Moorhead.			New Ulm. ^{ff}			Pine River Dam.			St. Paul.			Winnibigoshish.
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.					
1.	54	34	52	33	62	37	56	30	49	30	67	45	52	35	67	38	69	41	59	35	68	44	60	36	66	48	62	42	62	48	62	42								
2.	47	30	54	29	62	38	44	30	58	30	61	33	58	29	66	35	67	35	62	32	68	39	62	39	64	38	61	35	61	35	62	35								
3.	53	34	63	37	61	42	50	37	64	38	59	41	60	46	59	38	56	43	58	45	57	43	52	40	56	43	59	42	57	42	59	42								
4.	64	27	66	33	64	42	67	31	62	40	58	43	65	43	70	40	61	44	65	43	65	44	53	41	57	48	57	41	57	41	57	41								
5.	59	37	58	42	64	38	60	42	54	36	57	41	59	45	68	42	66	38	62	42	63	44	54	34	60	43	56	40	56	40	56	40								
6.	70	37	67	36	68	39	70	30	74	40	68	45	66	38	68	43	70	38	70	41	71	42	73	42	65	45	67	40	67	40	67	40								
7.	67	44	71	48	70	43	78	30	77	48	70	48	73	48	62	37	71	41	72	43	74	43	73	45	71	38	73	45	71	38	73	45								
8.	58	48	61	52	62	51	64	52	66	50	68	53	69	56	71	45	61	49	66	53	66	49	73	53	72	53	72	53	72	53	72	53	72	53						
9.	68	51	73	51	66	52	65	52	68	52	71	52	73	52	66	52	62	50	78	54	60	53	79	46	72	58	78	49	72	58	78	49	72	58						
10.	75	47	73	45	82	51	77	53	81	50	79	48	84	52	78	42	79	45	83	50	79	49	83	39	81	52	80	43	80	43	80	43	80	43						
11.	84	48	82	57	82	50	82	45	86	56	82	55	78	56	82	50	84	50	80	56	82	52	83	47	83	56	79	48	83	56	79	48	83	56						
12.	85	50	84	55	82	49	87	56	82	58	83	57	86	54	81	51	85	53	86	56	85	51	83	48	83	60	83	46	83	59	86	52	86	50						
13.	82	51	87	59	85	52	84	60	80	55	85	60	90	55	82	52	85	53	88	50	90	53	87	54	86	59	86	50	86	58	86	50	86	58						
14.	89	59	87	53	86	53	87	57	88	52	85	60	90	58	86	56	86	54	88	54	88	57	87	50	86	56	86	50	86	58	86	50	86	58						
15.	85	60	88	63	88	63	90	60	90	60	85	62	86	65	82	59	87	58	88	63	90	62	88	57	87	62	86	58	86	58	86	58	86	58						
16.	93	53	92	57	92	55	92	61	93	60	89	65	91	61	79	60	91	62	94	58	94	65	97	68	91	65	90	59	91	65	90	59	91	65						
17.	91	61	91	65	91	63	92	69	96	64	89	69	94	68	90	66	91	67	92	66	96	68	94	62	93	69	91	61	91	65	91	61	91	65						
18.	82	56	85	61	90	59	88	61	74	64	88	65	84	64	91	67	96	61	89	62	91	66	87	60	91	69	88	64	91	66	91	64	91	66						
19.	93	58	91	55	91	48	93	70	91	60	93	63	89	55	96	61	89	56	93	54	98	65	91	63	94	65	90	61	94	65	90	61	94	65						
20.	103	68	101	69	97	69	109	73	98	64	94	68	99	68	94	61	95	64	98	66	100	63	97	55	98	66	98	66	98	66	98	66	98	66						
21.	100	66	98	73	98	72	103	70	98	70	91	71	99	73	95	64	94	65	98	70	97	66	98	68	95	67	95	67	95	67	95	67	95	67						
22.	85	59	90	63	88	65	86	57	94	61	93	68	90	70	95	66	94	65	90	68	99	63	96	62	97	68	98	64	96	62	97	68	98	64						
23.	95	64	94	70	92	62	99	57	96	62	92	69	96	72	98	65	93	67	94	66	99	60	97	63	96	72	95	68	96	72	95	68								
24.	84	61	82	61	86	65	86	62	82	68	83	83	84	80	72	64	82	66	86	74	85	71	96	64	97	73	92	62	96	73	92	62								
25.	91	52	87	54	76	62	92	47	92	62	83	65	83	60	88	65	87	67	92	65	98	71	86	60	93	68	98	64	93	68	98	64								
26.	99	52	94	60	92	52	99	58	94	58	82	65	93	56	95	56	86	66	92	56	98	60	97	55	98	62	97	55	98	62	97	55								
27.	99	60	96	66	94	60	100	69	92	64	92	64	98	64	99	60	93	59	96	64	99	60	96	62	93	63	97	55	98	62	97	55								
28.	98	61	95	66	91	60	101	69	96	60	92	69	95	63	96	68	93	63	92	60	95	62	94	64	96	68	95	65	96	65	95	65								
29.	102	65	98	68	94	60	103	63	98	64	92	70	95	68	96	65	93	63	93	62	97	67	94	62	96	70	92	67	96	70	92	67								
30.	77	65	90	65	95	61	83	67	96	62	90	70	97	68	96	64	90	65	94	66	91	64	96	70	91	69	94	69	94	69	94	69								
31.																																								
Mns	81.1	51.9	81.8	54.9	81.7	53.4	82.0	54.3	83.3	54.2	81.3	58.3	82.9	57.1	82.9	54.4	82.2	55.3	82.8	55.4	84.3	57.1	83.3	53.5	83.1	59.7	82.1	54.5												

Wisconsin.

Iowa.

TABLE 3.—*Maximum and minimum temperatures at selected stations, June, 1910. District No. 5—Continued.*

Date.	Illinois.												Winnebago.														
	Hannibal, Mo.			La Porte, Ind.			Cairo.			Greenville.			La Salle.			Monmouth.			Mt. Vernon. ⁵⁵			Peoria.			Springfield.		
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	
1.	71	50			76	57	76	51	71	39	72	47	80	43	72	43	73	51	70	38							
2.	62	47			69	55	72	52	61	42	66	47	78	47	62	44	61	49	60	41							
3.	54	46			63	50	57	44	55	41	73	42	62	42	53	42	56	42	55	38							
4.	67	52			71	57	67	52	63	45	65	45	75	50	65	52	67	54	67	45							
5.	72	54			71	60	73	57	70	54	75	52	78	53	70	54	72	56	68	50							
6.	71	56			78	57	74	56	63	50	72	52	80	50	69	50	73	52	62	48							
7.	68	50			70	58	71	47	72	44	71	42	72	46	71	42	70	47	73	40							
8.	70	58			74	60	75	58	75	49	75	53	78	52	75	56	74	57	73	45							
9.	70	53			70	60	76	58	72	56	75	55	75	59	71	57	74	58	72	53							
10.	74	56			69	61	71	58	74	54	75	55	68	59	75	56	75	56	73	46							
11.	81	52			75	58	79	49	78	50	82	46	93	51	79	46	78	51	77	46							
12.	80	52			78	56	82	52	82	48	84	47	84	48	82	46	81	56	83	47							
13.	82	52			80	60	85	58	86	56	86	53	85	52	85	53	83	58	86	51							
14.	83	60			83	60	86	55	84	57	87	55	87	53	85	55	85	58	84	56							
15.	85	58			86	62	88	58	88	61	89	58	92	55	89	56	88	62	88	59							
16.	85	64			90	64	90	64	89	62	91	58	93	68	88	59	89	67	90	56							
17.	88	66			89	66	90	64	90	64	92	62	92	61	89	63	90	65	91	56							
18.	90	70			89	68	93	67	91	69	96	68	93	64	90	67	93	69	90	66							
19.	86	64			91	68	95	64	93	67	95	68	96	63	93	67	95	69	92	62							
20.	90	63			94	69	91	62	88	65	93	62	96	62	89	62	91	67	87	62							
21.	89	65			86	69	92	67	94	61	95	60	93	71	94	61	92	66	90	60							
22.	89	69			86	70	93	67	95	67	96	67	95	64	94	67	93	69	95	63							
23.	89	60			89	71	92	71	98	67	97	66	94	68	95	66	92	72	96	65							
24.	92	69			91	71	95	71	94	68	91	67	98	70	95	67	92	72	98	64							
25.	87	71			89	69	92	70	90	66	92	62	97	68	91	68	92	71	86	59							
26.	91	71			90	74	94	71	94	62	93	65	96	70	93	66	93	71	93	53							
27.	83	69			88	69	84	69	85	66	84	66	90	70	89	67	78	70	83	66							
28.	91	64			83	69	87	67	91	62	92	61	91	67	91	60	88	65	90	60							
29.	89	66			87	70	89	66	95	59	94	69	93	63	93	60	89	66	96	56							
30.	92	66			87	71	85	67	99	66	98	64	90	67	98	62	92	70	98	65							
31.	Means.....			80.7	60.1		81.4	63.6	83.1	60.4	82.7	57.2	84.5	56.9	86.3	58.5	82.6	57.1	82.3	61.2	81.9	53.9					